Amendments to the Claims

The listing of claims will replace the previous version, and the listing of claims:

Listing of Claims

1. (previously presented) A method of machining a work in a numerically controlled lathe having a rotatable spindle, a first tool rest configured to move back and forth relative to the spindle in a spindle axis line direction and in a direction crossing a spindle axis line, and a second tool rest configured to move back and forth relative to the spindle in the spindle axis line direction, the method comprising the steps of:

judging which of the first tool rest and the second tool rest, tools used in current machining are installed on;

judging whether tools used in next machining are the tools installed on the first tool rest or the tools installed on the second tool rest;

judging whether interference is caused between the first tool rest and the second tool rest during movement when, as to the first tool rest and the second tool rest, the tool rest on which the tools used in the current machining are installed is different from the tool rest on which the tools used in the next machining are installed;

obtaining, for both the first tool rest and the second tool rest, interference boundary positions at which the first tool rest and the second tool rest are in proximity but do not interfere with each other, on movement paths of the respective tool rests, when interference is caused between the first tool rest and the second tool rest;

moving one tool rest toward a standby position at a fast feed speed when the tool rest on which the tools used in the current

machining are installed is different from the tool rest on which the tools used in the next machining are installed;

obtaining a feed speed for the other tool rest so that the other tool rest on which the tools used in the next machining are installed reaches the interference boundary position within a same time as a time in which the one tool rest reaches the interference boundary position, and moving the other tool rest toward the interference boundary position at an obtained feed speed; and

increasing a speed of the other tool rest to a fast feed speed when the other tool rest passes the interference boundary position so as to move the tools used in the next machining to a machining start position in case where a feed speed obtained for the other tool rest is less than the fast feed speed.

2. (previously presented) The method of machining the work in the numerically controlled lathe according to claim 1, wherein when a plurality of tools is installed on the second tool rest, the plurality of tools is arranged in the same direction as the movement direction of the first tool rest crossing the spindle axis line, and the plurality of tools is moved in the same direction as the movement direction of the first tool rest to index a predetermined tool to the machining position.

3. (previously presented) The method of machining the work in the numerically controlled lathe according to claim 1, wherein a comparison is made between time in which the one tool rest reaches the interference boundary position when the one tool rest is moved at the fast feed speed and time in which the other tool rest reaches the interference boundary position when the other tool rest is moved at the fast feed speed; and when the other tool rest reaches the interference boundary position in a shorter time than the one tool rest, the feed speed of the other tool rest is obtained from a

distance between the standby position and the interference boundary position of the other tool rest and from a time in which the one tool rest reaches the interference boundary position.

4. (previously presented) The method of machining the work in the numerically controlled lathe according to claim 1, wherein a first interference check area is formed for the first tool rest from a predetermined part of the first tool rest which can cause interference with the second tool rest and from a position of cutting edges of the tools installed on the first tool rest and indexed to a machining position; and

a judgment is made as to whether or not the interference is caused between the first interference check area and the second tool rest and as to a position where the interference is caused.

5. (previously presented) The method of machining the work in the numerically controlled lathe according to claim 4, wherein when cutting edges of the tools installed on the second tool rest are aligned at a same position, a second interference check area is formed for the second tool rest from the position of the cutting edges of the tools and diameter of the tools.

6. (previously presented) The method of machining the work in the numerically controlled lathe according to claim 4, wherein when the tools installed on the second tool rest are tools of different lengths and position of the cutting edges thereof is irregular, the second interference check areas are formed for the respective tools from the position of the cutting edges thereof, diameters of the tools, and positions at which the tools are installed on the second tool rest, and

judgments are made as to whether or not the interference is caused and as to a position where the interference is caused, from

the positional relation between each of the interference check areas and the first interference check area.

7. (new) The method of machining the work in the numerically controlled lathe according to claim 1, wherein a distance from each of the interference boundary positions to each of expected interference positions is in a range from 0.5 to several millimeters.